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ABSTRACT

The major purpose of this project was to develop a computerized vocational counseling program consisting of an interactive computer package and a filmstrip series for use by unemployed/underemployed adults, handicapped persons, and prison inmates. Specific project objectives were to (1) determine clients' vocational counseling needs, (2) develop an occupational information computer package, (3) develop user guides and sound-filmstrips for using occupational information and for developing employability skills, (4) field test the program, and (5) assess users' reactions to the program. Based on a needs assessment of potential users, a master computer package was developed for four types of computers. A filmstrip series, accompanying audio tapes, and user's guide were developed to assist individuals in developing basic employability skills. Also, a self-instructional guide for using the computerized package was developed. In Tennessee, a population of unemployed/underemployed adults, handicapped persons, and prison inmates field tested the developed vocational counseling program. Inservice training on the use of the program was provided to counselors and others assisting users. Evaluation data collected from program users revealed that the vocational program was favorably received by users. Users increased their knowledge of the world of work significantly through the use of the program. (Author/CSS)

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FINAL REPORT

Project No. 49AH60119

Grant No. G007603755

DEVELOPMENT AND FIELD TEST OF A MULTI-PURPOSE COMPUTERIZED VOCATIONAL COUNSELING PROGRAM FOR PROVIDING PLACEMENT, OCCUPATIONAL AND EDUCATIONAL INFORMATION TO UNEMPLOYED ADULTS, HANDICAPPED PERSONS AND INMATES IN CORRECTIONAL INSTITUTIONS

VOLUME I OF III

PROJECT RESULTS

The research reported herein was performed pursuant to a grant from the Office of Education, U.S. Department of Health, Education and Welfare. Contractors or grantees undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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ABSTRACT

DEVELOPMENT AND FIELD TEST OF A MULTI-PURPOSE COMPUTERIZED VOCATIONAL COUNSELING PROGRAM FOR PROVIDING PLACEMENT, OCCUPATIONAL AND EDUCATIONAL INFORMATION TO UNEMPLOYED ADULTS, HANDICAPPED PERSONS AND INMATES IN CORRECTIONAL INSTITUTIONS

The major purpose of this project was to develop a computerized vocational counseling program consisting of an interactive computer package and a filmstrip series for use by unemployed/under-employed adults, handicapped persons and prison inmates. The specific objectives of the project were to: (1) determine vocational counseling needs of clientele to be served, (2) develop a multi-purpose occupational information computer package, (3) develop user guides and sound-filmstrips for using occupational information and for developing employability skills, (4) field test the developed program, and (5) assess the users reactions to the developed program.

After a needs assessment was made of a sample of unemployed/under-employed adults, handicapped persons and prison inmates, a multi-purpose, master computer package was developed for four different types of computers. The package was developed to provide information to meet the major needs identified in the needs assessment.

A filmstrip series with accompanying audio tapes was developed for assisting individuals in developing basic employability skills. A user's guide instructing individuals how to make effective use of the filmstrip series was developed. In addition, a self-instructional guide for using the computerized occupational package was developed.

The developed vocational counseling program, including the computerized component and the filmstrip series, was field tested in the State of Tennessee. Unemployed/under-employed adults, handicapped persons and prison inmates made up the field test population who used the program. Inservice training on the use of the program was provided for counselors and others who assisted users at each field test site.

Evaluation data collected from users of the program revealed the vocational program was favorably received by the users. Users of the program increased their knowledge of the world of work significantly through use of the vocational counseling program.

PREFACE

This report, consisting of three volumes, contains the results of an eighteen-month project which was designed to develop a computerized counseling program to be used by unemployed/under-employed adults, handicapped persons and prison inmates. Volume I contains a description of the conduct and results of the project. Volume II presents documentation on the computer packages developed for the project and Volume III presents the materials developed for the filmstrip series used in the project.

The following project staff members are acknowledged for their services in the successful completion of this project: Dr. George Traver, coordinator of developmental and field services; Dr. Ernest Brewer, who served as graduate assistant during the first phase of the project and served as associate project director during the field test stage; Mrs. Dulcie Peccolo, research associate; Mr. Jimmy Howell, system analyst and programmer; Dr. Daniel Wu and Mr. Sean Van Pallandt, graduate assistants; and Mrs. Judy Robison and Mrs. Joyce Wolfenbarger, secretaries.

Appreciations are expressed to the many businesses, industries and post-secondary educational institutions which provided job and educational information. In addition appreciations are expressed to administrators, counselors, prison inmates, handicapped individuals and unemployed adults who participated in the study.

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CHAPTER I

INTRODUCTION

During the past five years, a state-wide occupational information program has been developed and evaluated for the State of Tennessee. The four components of the program are: (1) Primary INFOE (Information Needed For Occupational Enlightenment) consisting of filmstrips, audio recordings and teacher guides for students (K-3); (2) Elementary INFOE (Information Needed For Occupational Exploration) consisting of 500 cartoon formatted career briefs, teacher guides and overhead transparencies of career clusters for students (grades 4-6); (3) Junior High INFOE (Information Needed For Occupational Exploration - In Depth) is designed to provide seventh through ninth grade students with exploration of 15 career clusters, 360 job titles and major vocational programs; (4) Secondary-Post-Secondary INFOE (Information Needed For Occupational Entry) is designed to provide specific occupational and educational planning materials for secondary and post-secondary school students.

During 1976, a federally funded project was conducted in Tennessee which made use of a computerized delivery system for the Secondary-Post-Secondary INFOE materials. The computer package utilized was developed by the University of Oregon. This package was limited in scope for delivery of occupational and educational information and was designed to run only on one type of computer--Hewlett-Packard. In addition, the Oregon package was designed mainly for use by in-school students.

At the present time many school systems have access to computers which could be used to deliver on-line occupational information. However, since there are various types of computer hardware available there is a need for an occupational information computer package which can be easily and economically adapted to a variety of types of computers. In addition, the package must allow for specific attributes of adults, handicapped persons and other special needs groups. With the above in mind the purpose of this developmental project was to develop a master occupational information computer package which could be used on the major types of computer hardware in Tennessee, and which can be used effectively by adults, handicapped persons and other special needs groups.

Specific Objectives

The specific objectives of the project were to:

1. Determine vocational counseling needs of unemployed and under-employed adults, handicapped persons and inmates in correctional institutions in Tennessee.

2. Develop a multi-purpose occupational information computer program for providing on-line access to placement, occupational and educational opportunity data.

3. Develop user guides and sound-filmstrips for using occupational information and for developing basic employability skills.

4. Field test the operational capabilities of the developed multi-purpose occupational information computer package on four types of computers.

5. Assess the feasibility of a state-wide computerized vocational counseling program and user reactions to all facets of the program.

Need for Study

In this section a review of pertinent literature of related efforts and ideas pointing out the need for this project will be explored. Information on ideas for developing vocational counseling information programs and needs which adults, handicapped persons and prison inmates have for occupational information will be cited.

Occupational Information and Its Development

Occupational information programs are important especially in a time of recession and high unemployment. Today, we have situations in which even college graduates are searching for any job--many times without relationship to their course of study. At the same time, many high school students are dropping out of school or are graduating without necessary skills to get and hold a job.

Guzzardi, Jr. (1975, p. 124) pointed out

> Much of this displacement is attributable to a slow economy, but the core of the trouble does not lie there. It comes with the spreading conviction that in our society, the world of education and the world of work are far too isolated from each other.

A viable occupational information program can help bridge this gap since it requires close working relationships between education and the business world.

Pearl (1973, p. 12) explained the nature of man which gives us some background as to why many people today feel helpless in our society.

> There are a number of basic needs common to a broad cross-section of people of varying races, creeds and ages.
>
> - the need to feel useful to yourself and those around you;
>
> - the need to feel a part of the community in which you live; to be accepted; to belong;
>
> - the need to develop experiences, skills and competencies in areas that will allow for contributions to the community and a related sense of personal worth;
>
> - the need to have control over your life; an ability to provide for oneself and family and a sense of power to affect and influence changes in the society of which you are a part.
>
> Occupational information can provide one source to help individuals meet their basic needs.

It is a difficult task for an individual to decide or know about the complex job market structure, not to mention being sure a particular job will be found to be rewarding. Suzuki (1973) proposed that each community and the high schools within it are unique, thus career guidance programs will probably be unique also. He further suggested that a flexible guidance system is needed to handle individual area needs and a broad range of methods and techniques should be considered for inclusion in any program.

In a study of counselors to determine the primary problems facing youth in the transition from school and work, Eggeman, et al., (1969) reported that 49.5 percent said there was a lack of information about work and training opportunities. Counselors (62.8 percent) said that schools should provide more and better occupational information.

Several factors are necessary in designing a career guidance program that would provide usable occupational information. Tiedeman and Field (1962) concurred when they urged the development of a guidance program that would help each individual to choose his goals and subsequently to achieve them. The idea strongly implied is that a guidance program must be part of, not stand beside, education.

Flanagan (1970), Cocswell (1967) stressed the importance of individualized instruction to permit individuals to learn and explore at their own pace. In addition, guidance professionals have begun to advocate the importance of behaviorally specific, student-oriented objectives and to use these in guidelines for systematically planning career exploration activities (Jones, 1965).

Much has been reported concerning computer-based guidance systems such as CVIS (Computer-assisted Vocational Information System, Harris, J., 1967); and ECES (Educational and Career Explorations Systems, Minor, F. J. and D. E. Super, et al., 1970).

Campbell and Vetter (1971, p. 4) suggested that the "basic purpose behind such systems is to permit inquiry concerning facts bearing on a particular type of institution or realm of activity." These authors add that the "computer as a tool for career guidance offers a great deal if used wisely." However, there can be a danger of:

> . . .relying too heavily on the counselor or the computer for specific tasks; the critical balance involves the appropriate complementary selections of each.
>
> Several additional problems have delayed the wide-scale adaption of computers. One of these is cost . . . the other problem involves training counselors to accept the use of computers . . .Wide-scale adaption cannot occur without major education thrusts.

Providing an effective occupational information program requires more than merely developing a delivery system. As explained by McKinlay (1974, p. 35):

> An effective delivery system is a boon to the delivery of career information, but it does not diminish the need for accurate information, in fact, it intensifies it. Implementation of a career information system requires major efforts, both with regard to information development and information delivery. Neither is an easy undertaking; taken together they present an even greater assignment. But they cannot be taken separately because they are complementary features of a single system; neither is functional alone. Unused information is of no consequence; an empty delivery system is a meaningless exercise.

However, providing meaningful ways of delivering the information must not be overlooked. As cited by Stowers (1975) an important criterion to judge a career information system is its means for providing access to the data to facilitate personalized career exploration.

In addition to the need pointed out in the review of literature, a push to expand vocational education in Tennessee makes it necessary for Tennessee to pursue the development of a comprehensive occupational guidance program. In 1973, the Eighty-eighth Tennessee General Assembly passed House Bill 1203 and Senate Bill 1001 which provide Tennessee with approximately 190 million dollars to expand vocational education. The Comprehensive Vocational Education Plan developed to implement the new legislation specifies the need for 1,543 new vocational education instructors and 1,279 guidance counselors for the State of Tennessee within the next four years. To assist special need groups and working adults to take advantage of the new vocational education opportunities will require the implementation of a statewide occupational information system which makes use of quick and effective ways to input and retrieve up-to-date job, educational and placement information.

Vocational Counseling for Prison Inmates

Due to the nature of residents in penal institutions, providing counseling services to these residents presents many challenges. A recent report of the New Jersey Commission on Vocational Education in Correctional Institutions (1972, p. 1) pointed the nature of penal institutions as follows:

> It is possible to describe the American penal system in one word: failure. Its constituency is comprised of the failure of society, schools, and social agencies. Even their aberrant behavior is

characterized by failure--they were caught, convicted, sentenced and incarcerated for their act. This grim picture is further colored by the fact that the correctional system also fails in an attempt to ready a person for a productive role in society.

Tennessee has done little in the past to provide vocational training for prison inmates. However, under the direction of the new correction commissioner, Mr. C. Murray Henderson, new programs are being planned. In a recent newspaper article Mr. Henderson was quoted as saying that he realizes certain people nave to be confined but "while they are confined, they should be offered both educational and counseling opportunities." He also added, "if an inmate needs a trade, we ought to be in a position to teach him a trade."

In a recent study in Oregon, Salmony (1974) stated the results of a study of the prison inmates in that state. He stated that:

1. A majority did not have high school education.

2. A large percentage wish to continue their education while in prison.

3. A large percentage wish to continue their education upon discharge from prison.

4. There exists a critical need for improved counseling (58% stated they had received no academic or vocational counseling).

Tennessee has not completed a recent study of the situation in its correctional institutions. However, prison officials with which the University of Tennessee staff have worked express the belief that similar results would be found in Tennessee. Therefore, it appears that an effective vocational counseling program with an accurate occupational information program is needed greatly in this state. One of the conclusions stated by Salmony (1974, p. 45) as a result of the Oregon study was that an improved educational program must be complemented by adequate counseling.

Sinclair and Moulden (1974, p. 2) revealed other considerations which must be taken into account in providing counseling services to prison inmates:

> A second major problem that prison inmates must face is the social restrictions that ensue from having been arrested, tried, convicted and incarcerated. Most state and local governments

will not hire ex-offenders, while at the same time imploring the private sector to do so.

. . .Most private-sector jobs requiring bonding exclude ex-offenders.

With the preceding in mind it is important that a viable occupational information program for prison inmates provide factual information. In addition, inmates must be given specific counseling on how to overcome their limitations due to their prison records.

Handicapped Persons

Love (1971) in a recent publication stated that 10 percent of the American population are handicapped. The handicapped population was broken down into the following groups by Young (1971):

1. Mentally retarded; two groups: (a) educable and (b) trainable
2. Speech impaired, stuttering, delayed speech, speech disorder, articulatory disorders, and vocal disorders
3. Visually impaired; two groups: (a) blind and (b) partially blind
4. Hearing impaired; two groups: (a) deaf and (b) hard of hearing
5. Crippled and health impaired
6. Emotionally disturbed and socially maladjusted

In order to provide an effective occupational information base for the handicapped it is essential that job opportunities be coded to let the handicapped person know realistically what jobs can be obtained. Since handicapped persons are omitted from some work positions due to their handicaps, they should know these facts or know how to overcome this job barrier by use of special devices.

In recent studies (Prisuta, 1970 and Russell, 1972) one important need found by researchers was the need for occupational information which was designed specifically for use by handicapped persons. It was found that few handicapped persons knew specific job requirements and that many did not know how to obtain a job.

As cited by the Bureau of Education for the Handicapped (1972), there have been several career education programs developed for the handicapped. However, none of the cited programs provide job information coded specifically for their personal limitations.

Vocational Counseling for Adults

Adams (1972, p. 52) in a review of research concerning adults pointed out the lack of research regarding guidance and counseling of adults. He identified the following areas of adult guidance which need further research and development:

1. Coping with change
2. Growing on the job
3. Using leisure time
4. Getting job information
5. Government aid
6. Social services

In Tennessee the development of a network of area vocational schools has aided adults in obtaining job training. In addition, CETA programs have provided some training for unemployed adults. However, there still exist large numbers of unemployed and under-employed adults in Tennessee who have not taken advantage of the job training opportunities offered. Perhaps the prime reason is that many adults are not aware of these job opportunities or of how such training would benefit them in finding jobs or advancing on their present jobs.

In explaining the needs of unemployed and under-employed adults, Hoenninger (1974, p. 25) stated:

> . . .Occupational data is of prime importance and integrating it with the realities of life is a major concern and should be dealt with responsibly.

Once viable occupational information is available in a form which can be used by adults, provisions must be made for presenting it to them. It seems essential that other means than traditional education institutions must be utilized to make the information available. It appears that a fast, efficient means such as an easy-to-operate computer terminal located in shopping centers

and unemployment offices would assist in this endeavor.

Summary of Need for the Project

A summary of the highlights of need for this project which was obtained from the review of literature and an analysis of the problem is as follows:

1. Tennessee is undergoing an extensive program of expansion for vocational-technical education, however, little effort is being made to recruit adults, handicapped persons and residents in correctional institutions for the training programs to be offered.

2. There is a state-wide occupational information program available in the state but it is designed primarily for in-school students. There is a need to make similar information available to unemployed and under-employed adults, the handicapped and prison inmates.

3. There is a nationwide need for development of occupational information designed to serve the specific needs of the handicapped adults and incarcerated adults.

4. There is a need for development of an information system which can be easily accessed and updated to serve the needs of special user groups.

5. There is a need for development of a computerized occupational information program which can be easily adapted for use on current time-share computers in use in Tennessee and in other states.

6. Individuals need more than job information and specific trade skills--they need to know how to look for a job and how to advance in the world of work.

7. Individuals need information on how to assess their personal abilities and how to locate and pursue both job and vocational training opportunities which are available to them.

CHAPTER II

METHODOLOGY

In this section, an overview of the activities of the project advisory committee will be presented. In addition, the procedures used in attaining each specific objective of this project are presented.

Project Advisory Committee

During August, 1976, after members of the project staff had been hired, work was begun to form a project advisory committee. Members for the committee were selected to obtain state-wide representation of the proposed user groups of the vocational counseling program. The members selected to serve on the project advisory committee are presented in Appendix A.

Since it was not possible to convene a meeting of the total advisory committee until October 14, 1976, information on ideas for surveying the counseling needs of the prospective user groups was solicited from members of the committee on an individual basis. At the October, 1976 meeting of the advisory committee, a demonstration of a prototype of the WANG computerized program was provided and suggestions of field sites to test the computer systems to be developed were obtained. In addition, suggestions on persons who would be helpful in reacting to components of the project as they were developed were obtained from the committee.

A second meeting of the project advisory committee was held at the Tennessee Prison for Women in Nashville, Tennessee during November, 1977. Due to several conflicts of schedules, only about one third of the committee was able to meet. The members present reviewed the operation of the developed program as it was implemented at the Tennessee Prison for Women. They provided suggestions to the project staff regarding further development and they provided suggestions on how to continue the project activities beyond the duration of this study.

Procedures

Objective One

The following procedures were utilized in attaining Objective No. 1, which was to:

> "Determine vocational counseling needs of unemployed and under-employed adults, handicapped persons and inmates in correctional institutions in Tennessee."

Ideas were solicited from representatives of the following agencies to design an interview survey form to

determine the vocational counseling needs of adults, handicapped persons and prison inmates in Tennessee:

1. Division of Vocational-Technical Education, Tennessee State Department of Education

2. Tennessee State Department of Corrections

3. Division of Vocational Rehabilitation, Tennessee State Department of Education

4. Governor's Manpower Council (includes CETA)

5. Tennessee State Department of Employment Security

After the project staff developed the interview survey form, interviews were conducted with a random selection of 197 persons during August and September, 1976. The total number of interviews included 104 prison inmates, 47 handicapped persons, and 46 underemployed or unemployed adults. A copy of the interview survey form is shown in Appendix B.

Interviews were conducted at the following locations:

1. Goodwill Center (Handicapped), Chattanooga, Tennessee

2. Jackson Rehabilitation Office (Handicapped), Jackson, Tennessee

3. Knoxville Rehabilitation Office (Handicapped), Knoxville, Tennessee

4. Memphis Manpower Center (Adults), Memphis, Tennessee

5. Memphis Youth Corps (Adults), Memphis, Tennessee

6. Memphis Rehabilitation Office (Handicapped), Memphis, Tennessee

7. Nashville Rehabilitation Office (Handicapped), Nashville, Tennessee

8. Nashville Workshop Center (Adults), Nashville, Tennessee

9. Office Industries Center (Adults), Jackson, Tennessee

10. Tennessee State Penitentiary (Men's Prison), Nashville, Tennessee

11. Tennessee State Prison for Women, Nashville, Tennessee

A complete analysis of the data collected during the structured interviews is provided in Appendix C. A brief summary of the results revealed the following.

1. Information of counseling services now being offered to adults, handicapped persons and prison inmates should be made available to users and potential users.

2. Adults, handicapped persons and prison inmates need more assistance in selecting educational subjects for study.

3. Adults, handicapped persons and prison inmates need more help in exploring career possibility in a systematic manner.

4. More information on jobs presented in a more usable form is needed by adults, handicapped persons and prison inmates.

5. There is a great need for information on vocational-technical training offered in the state to be made available to adults, handicapped persons and prison inamtes.

6. Adults, handicapped persons and prison inmates need information on the training and educational opportunities offered in area vocational schools, community colleges and four-year colleges.

Objective Two

The following procedures were utilized in attaining the second objective of the project, which was to:

> "Develop a multi-purpose occupational information computer program for providing on-line access to placement, occupational and educational opportunity data."

At the beginning of the project during July, 1976, plans were developed to design a multi-purpose computer software package, written in BASIC computer language. The first version developed was written specifically for the WANG computer. The WANG version after several revisions was next rewritten to run on a Hewlett-Packard 3000 computer. The 3000 version was then converted to run on the Hewlett-Packard 2000 ACCESS computer. The final version of the package was developed for a DEC PDP11 computer.

These basic versions were updated immediately after the field test sites were brought on-line during the first half of the field test. The updated programs were incorporated into the existing system during October and November, 1977.

The computer software package developed for the four different types of computers consists of the following components:

1. INPUT program - This program provides for a two-way interaction through use of a 33-item questionnaire which allows the user to input his or her interests, criminal record, abilities, disabilities, desired salary level, educational level attained and working condition preferences. This information is matched with the precoded job data file and allows the users to obtain a list of jobs based on his or her attribute code (the way the questions were answered).

2. WHY routine for INPUT. This routine allows the user to inquire why a specific job title was not obtained in the use of the INPUT program.

3. CHANGE routine for INPUT. This routine allows the user to change answers to the INPUT questionnaire and to receive a revised job list.

4. JOBD file - This file, which consists of 300 job titles selected to be of interest and benefit to users in Tennessee provides a description of a specific job title which includes the duties of the job and what salary it pays.

5. PREP file - This file provides specific information on how individuals may prepare to enter one of the 300 jobs in the job description file.

6. CROS file - This file provides specific information on what vocational or technology training program will provide training for any of the 300 job titles and what institutions offer the program.

7. EMPLY file - This file identifies possible employers for any of the 300 job titles.

8. SEEK program - This program provides for interaction between user and computer through the use of an 8-item questionnaire which allows the user to input his or her interests in the type of postsecondary institution they might wish to attend. The user's answers to the questionnaire is matched with the precoded institution data file and allows the user to obtain a list of postsecondary institutions based on the user's interests.

9. WHY routine for SEEK - This routine allows the user to inquire why a specific institution was

not obtained during the use of the SEEK program.

10. CHANGE routine for SEEK - This routine allows the user to change answers to the SEEK questionnaire and to receive a revised institution list.

11. INSTD file - This file, which consists of 124 postsecondary institutions selected to be of interest and benefit to users in Tennessee provides a description of a specific institution which includes entry requirements, major programs offered and how to obtain admission to it.

Flowcharts and documentation on all four of the computer packages are presented in Volume II of this report. In addition, an example of a typical printout which a user would receive is presented in Volume II.

Objective Three

The following procedures were utilized in attaining the third objective of the project, which was to:

"Develop user guides and sound-filmstrips for using occupational information and for developing basic employability skills."

A user's guide with complete instructions for using the computerized occupational information system is presented in Volume II. This guide was developed as an integral part of the development of the computer packages.

The first step in developing sound-filmstrips on using occupational information and for developing basic employability skills was to review what was available for adults, handicapped persons and prison inmates. When the review failed to turn up any materials developed specially for this clientele, the following ten sound-filmstrip titles were identified for development:

1. Orientation to Employability Skills
2. Seeking Employment Assistance
3. Preparing Your Resume'
4. The Job Interview
5. Selling Your Skills to an Employer
6. What to Look for in a Job
7. What Employers Look for in Employees
8. Climbing the Career Ladder
9. How to Enjoy Your Job More
10. Job Hunting on the Outside

The following steps were followed in the filmstrip development:

1. Scripts for each filmstrip were developed, reviewed by specialists in adult education, vocational rehabilitation and by those experienced in working with prison inmates, then were revised and edited.

2. Using revised scripts as guides, 35mm color slides were made to illustrate each identified frame in the script.

3. After final editing of the scripts, with respect to slides, narrations were recorded for each script.

4. The original 35mm color slides were used in a direct process in which filmstrips were developed without use of an internegative.

5. The master audio tapes of the recorded narrations were duplicated on cassette tapes.

Each of the complete scripts for the ten filmstrips is provided in Volume III.

A user's guide for use with the sound-filmstrip series was developed to assist users in making use of the filmstrips. This guide entitled "A Guide To: Orientation to Employability Skills," contains a summary of the contents of each filmstrip and a list of learning activities to supplement the filmstrip series. A copy of the guide is presented in Volume III.

Objective Four

The following procedures were utilized in attaining the fourth objective, which was to:

> "Field test the operational capabilities of the developed multi-purpose occupational information computer package on four types of computers."

In order to implement the fourth objective, the project staff established an on-going dialogue with the contact person at each field test site. Ample quantities of user guides, filmstrip guides, and sound-filmstrip packages were transported to each site to coincide with the installation of the computer terminals.

To insure the project staff would provide adequate in-service training to users of the filmstrip series and the computerized counseling program, inservice guidelines were developed. In addition, a sound-slide series was developed to orient potential users of the counseling program to the

overall project. The inservice training guidelines and script for the sound-slide series are provided in Appendix D.

The project staff provided inservice training at each field test site. The training was made available to the field site contact persons and to peer group facilitators at some sites. The specific field test sites and the populations they served are provided in Appendix E.

Objective Five

The following procedures were utilized in attaining the fifth objective which was to:

> "Assess the feasibility of a state-wide computerized vocational counseling program and user reactions to all facets of the program."

In order to assess effectively the multi-purpose computerized vocational counseling program, one standardized instrument and two project staff developed instruments were used to collect data. A staff developed instrument entitled "Employability Skills Questionnaire" (see Appendix F) was used to collect data on the effectiveness of the filmstrip series on employability skills. To obtain information on users' overall reaction to the computerized system, a staff developed instrument entitled "Reaction Questionnaire" (see Appendix G) was administered to users.

The "Career Maturity Inventory (Form A1), Competence Test, Part 2, Knowing About Jobs," developed by J. O. Crites was used to assess job knowledge development of users of the computerized vocational counseling program.

Permission to use the instrument in this survey was obtained from the publisher CTB/Mc Graw-Hill, Monterey, California 93940. This test is designed to measure the more cognitive variables involved in choosing an occupation. Knowing About Jobs measures how much the individual knows about the world of work. Published data relative to the validity and reliability of the instrument indicates that it is effective for assessing competencies important for making career choices for students in Grades 6-12. The Career Maturity Inventory Theory and Research Handbook (Crites, J.O. Monterey, California: CTB/Mc Graw-Hill, 1973.) indicates that, relative to the validity of the inventory, research data have supported three measures of test validity: content; criterion-related; and construct validity. The reliability coefficients presented in the handbook were calculated by use of the Kuder-Richardson Formula 20 and ranged from .81 to .88 for Grades 6-12 on Part 2, Knowing About Jobs. (These grade ranges roughly correspond to the functional grade levels of a majority of the users served in this study.)

An analysis of data collected by the above described instrument is provided in Chapter III.

Project Publicity and Demonstration Activities

During the duration of the project, the following presentations and/or demonstrations of the computerized vocational counseling program were conducted.

1. Tennessee's White House Conference on Handicapped Individuals - Nashville, Tennessee - Spetember 13-14, 1976. A display of project activities was set up at this meeting to expose the 500 counselors and supervisors of programs for the handicapped to the project.

2. National Orientation Directors Association Convention - Knoxville, Tennessee - October 24-27, 1976. A display and demonstration of WANG computer version of the program was set up to orient the 300 directors of post-secondary institutions' orientation programs to the project.

3. Monthly meeting of Alpha Kappa Chapter of Phi Delta Kappa - Knoxville, Tennessee - February 16, 1977 - Presentation and demonstration was attended by 80 counselors, teachers and school administrators.

4. Tennessee Personnel and Guidance Association Annual Convention - Gatlinburg, Tennessee - May 4-6, 1977 - Two presentations and two demonstrations were provided for secondary school and postsecondary institution counselors.

5. National Consortium for Career Information Services - Orlando, Florida - April 28, 1977. Presentation on project was made and informational booklet on project was provided to career information directors from 25 states.

6. Atlanta Rehabilitation Counseling Association Symposium - Atlanta, Georgia - May 20, 1977. Two presentations and two demonstrations were provided to 40 vocational rehabilitation counselors and administrators.

7. Teachers Education Conference - Nashville, Tennessee. September 19, 1977. A display and demonstration of the computerized vocational counseling program for 500 teachers, counselors, and school administrators.

8. Health Fair - Chattanooga, Tennessee - September 17-18, 1977. Display and demonstration exposed the program to approximately 10,000 citizens at Eastgate Shopping Center.

9. Channel 2, WSJK-TV (Knoxville, Tennessee) taped two sessions concerning the computerized counseling project that televised over the air. They in turn made a copy of this taping for our future use in disseminating information to other agencies.

10. Project OVERVIEW's staff received an orientation to the computerized counseling project on September 23rd for their use in providing educational, occupational, and placement information to the population they serve.

11. The staff of Project WORK (Women's Opportunities & Referrals of Knoxville) received an orientation to the computerized counseling project on September 17th for using the system in working with underemployed or unemployed women, in providing occupational, educational and placement information as a means of a career development program.

Appendix H contains an article which appeared in a Knoxville, Tennessee newspaper.

CHAPTER. III

EVALUATION RESULTS

To assess the impact of the computerized vocational counseling program, data were collected for the three groups of users: handicapped, unemployed and under-employed adults, and prison inmates. To obtain information on users' overall reaction to the computerized program, a project staff developed instrument entitled "Reaction Questionnaire" was administered to users. To determine if the program had increased job knowledge, the "Career Maturity Inventory, Competence Test, Part 2, Knowing About Jobs" was administered to a purposive sample of users and non-users of the program for comparative purposes. In addition, a project staff developed instrument entitled "Employability Skills Questionnaire" was used to collect comparative data between a purposive sample of users and non-users of the filmstrip series. Results of the analyses of the collected data are provided in this section.

Reaction Questionnaire Results

The "Reaction Questionnaire," Appendix G, consisted of ten questions with a response scale of one to five: five indicating a positive response and one indicating a negative response. Of the approximate 1500 users of the system a purposive sample of 699 users completed the reaction questionnaire. Of the 699 who completed the instrument, 236 (33.8 percent) were classified as unemployed or under-employed adults, 166 (23.7 percent) were handicapped persons and 297 (42.5 percent) were prison inmates. Results of the users reactions to each of the ten questions are presented in this section.

Results of Question One

The first question, "Do you feel that you learned some things from working with the computer concerning educational and occupational information?" revealed 94.5 percent of the 236 unemployed and under-employed adults indicated "yes, absolutely," whereas 25.3 percent of the 166 handicapped respondents and 64.3 percent of the 297 prison inmate respondents indicated "yes, absolutely." (see Table 1). An analysis Table 1 also shows that 36 (21.7 percent) of the 166 handicapped respondents indicated they absolutely did not learn some things from working with the computer concerning educational and occupational information. An analysis of the total 699 responses reveals, 456 (65.2 percent) responded "yes, absolutely," 122 (17.5 percent) responded "yes, in most cases", 78 (11.2 percent) responded "depends on the situation and/or the person", 7 (1.0 percent) responded "no, only in a very few cases." The remaining 36 (5.2 percent) of the total group of respondents, which came from the handicapped, responded "absolutely not," indicating that they did not benefit from the information received.

TABLE 1 ·

USERS' ANSWERS TO QUESTION ONE BY GROUP AND RESPONSE

Group	Number	5 Yes, Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	233	7	5	1	0
Handicapped Individuals	166	42	60	23	5	36
Prison Inmates	297	191	55	50	1	0
Total	699	456	122	78	7	36

Results of Question Two

On this reaction question, "Would you recommend that other participants learn with the aid of a computer about the world of work?", the analysis of the data revealed that 35 (14.8 percent) of the 236 unemployed/ under-employed responded "yes, absolutely," 69 (41.6 percent) and 176 (59.3 percent) respectively. Of the 236 unemployed/ under-employed, 198 (83.9 percent) indicated "yes, in most cases" that they would recommend that other participants learn about the world of work with the aid of a computer. Among those 166 handicapped respondents, 59 (35.3 percent) responded "yes, in most cases," and 105 (35.4 percent) of the 297 prison inmates made this same response in that they would recommend others to learn about the world of work with the aid of a computer. An analysis of the total 699 respondent's responses revealed 280 (40.1 percent) replied "yes, absolutely," 362 (51.8 percent) replied "yes, in most cases," 32 (4.6 percent) replied "depends on the situation and/or the person" and 18 (2.6 percent) replied "no, only in a very few cases." The remaining 7 (1.0percent) of the 699 respondents replied "absolutely not." See results in Table 2.

TABLE 2

USERS' ANSWERS TO QUESTION TWO BY GROUP AND RESPONSE

Group	Number	5 Yes, Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	35	198	2	1	0
Handicapped Individuals	166	69	59	26	6	6
Prison Inmates	297	176	105	4	11	1
Total	699	280	362	32	18	7

Results of Question Three

"If you had the chance, would you utilize the computer to gain more direction as to what occupation to go into?" was the third question to be analyzed. According to Table 3, 94 (39.8 percent) of the 236 unemployed and under-employed adults responded "yes, absolutely while 71 (42.8 percent) of the 166 handicapped persons and 179 (60.3 percent) of the 297 prison inmates indicated this response. An analysis of the total responses of the three groups on this reaction question revealed 344 (49.2 percent) responded "yes, absolutely," 272 (38.9 percent) of the 699 responded "yes, in most cases," 15 (2.1 percent) responded "depends on the situation, 56 (8.0 percent) of the total 699 responded "no, only in a very few cases," and the remaining 12 (1.7 percent) of the total 699 responded "absolutely not." Thus, 616 (88.1 percent) of the total 699 responded favorably in utilizing the computer as an aid in finding direction as to what occupation to enter, whereas 68 (9.7 percent) did not respond favorably to this question.

TABLE 3 .

USERS' ANSWERS TO QUESTION THREE BY GROUP AND RESPONSE

Group	Number	5 Yes, Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	94	136	3	3	0
Handicapped Individuals	166	71	72	8	8	7
Prison Inmates	297	179	64	4	45	5
Total	699	344	272	15	56	12

Results of Question Four

Reaction question number four was: "Did you feel that the computer provided you with a lot of educational and occupational information in a short period of time?" The breakdown of the responses are presented in Table 4. Of the 236 unemployed/under-employed respondents, 232 (98.3 percent) responded favorably while only (58.4 percent) of handicapped responded favorably to this question. The prison inmates, however, responded favorably to this reaction question by 280 (94.3 percent) of the 297 indicating "yes, absolutely" or "yes, in most cases" that they received much educational and occupation information in a short period of time through the utilization of the computer. An analysis of the total respondents revealed 325 (46.5 percent) who responded "yes, absolutely," 284 (40.6 percent) who responded "yes, in most cases," 35 (5.0 percent) who responded "depends on the situation and/or the person", and 10 (1.4 percent) responded "no, only in a very few cases." The remaining 45 (6.4 percent) responded "absolutely not" to this reaction question.

TABLE 4 .

USERS' ANSWERS TO QUESTION FOUR

GROUP AND RESPONSE

Group	Number	5 Yes, Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	31	201	2	2	0
Handicapped Individuals	166	41	56	21	5	43
Prison Inmates	297	253	27	12	3	2
Total	699	325	284	35	10	45

Results of Question Five

The fifth question of the reaction questionnaire was: "Would you recommend this system to a friend to help explore an occupational field?" The analysis of the results is presented in Table 5 which reveals 234 (99.2 percent) of the 236 unemployed/under-employed responded "yes, absolutely" or "yes, in most cases." However, 149 (89.8 percent) of the 166 handicapped individuals, and 243 (81.8 percent) of the 297 prison inmates responded favorable by responding "yes, absolutely" or "yes, in most cases." In analyzing the three groups, the unemployed/ under-employed group responded most favorably in recommending this system to a friend as an aid to help explore an occupational field, with the prison inmate group next in positive response, and the handicapped individual group least favorable. Table 5 shows that 494 (70.7 percent) of the total 699 responded "yes, absolutely," 132 (18.9 percent) responded "yes, in most cases," 50 (7.2 percent) responded "depends on the situation and/or the person," 15 (2.1 percent) responded "no, only in a very few cases," with the remaining 8 (1.1 percent) responding "absolutely not" to reaction question number 5.

TABLE 5 .

USERS' ANSWERS TO QUESTION FIVE BY GROUP AND RESPONSE

Group	Number	5 Yes, Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	227	7	2	0	0
Handicapped Individuals	166	75	74	7	3	7
Prison Inmates	297	192	51	41	12	1
Total	699	494	132	50	15	8

Results of Question Six

Reaction question number six was stated as follows: "Did you learn something about yourself in relation to the world of work?" The analysis of the data revealed that 229 (97.1 percent) of the 236 unemployed/under-employed responded "yes, absolutely" or "yes, in most cases." However, 84 (50.6 percent) of the 166 handicapped individuals and 277 (93.3 percent) of the prison inmates indicated "yes, absolutely" or "yes, in most cases" that they did learn something about themselves in relation to the world of work. Table 6 shows that the handicapped individual group responded least favorably, whereas the unemployed/under-employed group responded most favorably to this reaction question in that they felt that they learned something about themselves in relation to the world of work. Of the total 699 respondents, 433 (61.9 percent) responded "yes, absolutely" to this reaction question, with 157 (22.5 percent) responding "yes, in most cases," 14 (2.0 percent) responding "depends on the situation and/or the person," 77 (11.0 percent) responding "no, only in a very few cases," and the remaining 18 (2.6 percent) responding "absolutely not."

TABLE 6

USERS' ANSWERS TO QUESTION SIX BY GROUP AND RESPONSE

Group	Number	5 Yes, Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	151	78	3	3	1
Handicapped Individuals	166	72	12	7	71	4
Prison Inmates	297	210	67	4	3	13
Total	699	433	157	14	77	18

Results of Question Seven

"Did you learn about some specific requirements for a job or how to prepare for a job?" was listed as question number seven on the reaction questionnaire. The analysis of the results showed that 229 (97.0 percent) of the 236 unemployed/under-employed responded "yes, absolutely" or "yes, in most cases." Only 81 (48.8 percent) of the 166 handicapped individuals, however, responded "yes, absolutely" or "yes, in most cases." Of the 297 prison inmates, 249 (83.9 percent) responded positively, thus implying they learned some specific requirements for a job or how to prepare for a job through the aid of the computerized counseling system. An analysis of the data from the 699 respondents revealed 385 (55.1 percent) responded "yes, absolutely" to reaction question number seven, 174 (24.9 percent) responded "yes, in most cases," 17 (2.4 percent) responded "depends on the situation," 98 (14.0 percent) responded "no, only in a very few cases," and the remaining 25 (3.6 percent) responded "absolutely not." Results of the analysis of question seven are shown in Table 7.

TABLE 7

USERS' ANSWERS TO QUESTION SEVEN BY GROUP AND RESPONSE

Group	Number	5 Yes, Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	94	135	6	0	1
Handicapped Individuals	166	71	10	7	56	22
Prison Inmates	297	220	29	4	42	2
Total	699	385	174	17	98	25

Results of Question Eight

The eight question on the reaction questionnaire was "Did you learn more about your career plans?" Of the 236 unemployed/under-employed, 222 (85.3 percent) answered "yes, absolutely" or "yes, in most cases"; the handicapped individuals totaled 124 (64.7 percent) of the total 166 respondents by indicating "yes, absolutely," or "yes, in most cases"; and the prison inmates responded by 240 (80.8 percent) of the total 297 respondents indicating "yes, absolutely" or "yes, in most cases." An analysis of the total responses from the 699 users is presented in Table 8. Of the 699 respondents, 366 (52.4 percent) indicated they learned more about their career plans by using the computerized counseling system, whereas 220 (31.5 percent) of the respondents indicated that they did in most cases. Twenty-one (3.0 percent) of the respondents indicated that it depended on the situation and 31 (4.4 percent) indicated only in a very few cases did the computer assisted them in learning more about their career plans. The remaining 61 (8.7 percent) responded with negative response, "absolutely not."

TABLE 8

USERS' ANSWERS TO QUESTION EIGHT BY GROUP AND RESPONSE

Group	Number	5 Yes Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	86	136	1	9	4
Handicapped Individuals	166	67	57	8	21	13
Prison Inmates	297	213	27	12	1	44
Total	699	366	220	21	31	61

Results of Question Nine

The next to the last question on the reaction questionnaire was stated: "Did you learn more about educational opportunities that are offered throughout the state for particular occupations?" Two-hundred-and-thirty-two (98.3 percent) of the 236 unemployed/under-employed, 49 (29.5 percent) of the handicapped and 283 (95.3 percent) of the prison inmates responded "yes, absolutely" or "yes, in most cases." Table 9 shows that of the total 699 respondents, 504 (72.1 percent) responded "yes, absolutely" to this reaction question, whereas the remaining respondents responded accordingly; 60 (8.6 percent), "yes, in most cases." 66 (9.4 percent) depends on the situation and/or the person"; 32 (4.6 percent), "no, only in a very few cases"; and the remaining 37 (5.3 percent) responded "absolutely not."

TABLE 9 .

USERS' ANSWERS TO QUESTION NINE BY GROUP AND RESPONSE

Group	Number	5 Yes, Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	217	15	2	1	1
Handicapped Individuals	166	42	7	62	20	35
Prison	297	245	38	2	11	1
Total	699	504	60	66	32	37

Results of Question Ten

The last of the ten questions on the reaction questionaire was "Did you feel that the job description for a job was helpful?" Of those 236 unemployed/under-employed respondents, 233 (98.7 percent) responded "yes, absolutely" or "yes, in most cases." Eighty-three (50.3 percent) of the 165 handicapped respondents and 272 (88.2 percent) of the 297 prison inmates responded "yes, absolutely" or "yes, in most cases" that they felt that the job description provided by the computerized counseling system was helpful. Table 9 shows the breakdown of the total 699 respondents according to their response toward this reaction question. Of the 699 respondents, 534 (76.5 percent) responded "yes, absolutely," 44 (6.3 percent) responded "yes, in most cases," 59 (8.5 percent) responded "depends on the situation and/or the person," 29 (4.2 percent) responded "no, only in a very few cases," and the remaining 32 (4.6 percent) responded "absolutely not".

TABLE 10

USERS' ANSWERS TO QUESTION TEN BY GROUP AND RESPONSE

Group	Number	5 Yes, Absolutely	4 Yes, in Most Cases	3 Depends on the Situation	2 No, only in a very few cases	1 Absolutely not
Unemployed/ Under-employed	236	225	8	2	0	1
Handicapped Individuals	165	70	13	54	19	9
Prison Inmates	297	534	23	3	10	22
Total	699	534	44	59	29	32

Job Knowledge Results

To assess the level of job knowledge obtained by users of the computerized vocational counseling program, users were asked to complete the 20-item instrument: "Career Maturity Inventory, Competence Test, Part 2, Knowing About Jobs." Of the approximate 1500 users of the program, a purposive sample of 586 users consisting of 192 unemployed/under-employed adults, 168 handicapped persons and 226 prison inmates completed the instrument. For comparison purposes, a total of 645 individuals who had not used the program were administered the instrument. This control group consisted of unemployed/under-employed adults, handicapped individuals and prison inmates.

A one-way analysis of variance was applied to the data collected from users and non-users of the computerized counseling program. An examination of the data presented in Table 11 revealed a statistically significant difference existed between the job knowledge scores of users and non-users of the program. The users had a mean score of 15.09 on the competence test, while the non-users had a mean score of 7.68. The highest possible score on the test was 20.

TABLE 11.

ANALYSIS OF VARIANCE FOR LEVEL OF JOB KNOWLEDGE DIFFERENCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS

Source of Variation	Degree of Freedom	Sum of Squares	Mean Squares	F
Between Groups	1	16837.18	16837.18	522.61*
Within Groups	1229	39595.30	32.22	
Total	1230	56432.48		

P.01 ≥ 6.65 (with 1 and 1229 degrees of freedom)
* Significant beyond the .001 level of significance

Further analysis was completed to determine if any differences existed among the types of users of the computerized counseling program. A one-way analysis of variance was computed on the job knowledge scores of unemployed/under-employed adults, handicapped individuals and prison inmates who had used the program. An examination of the data presented in Table 12 revealed a statistically significant difference among the three groups of users of the program.

TABLE 12

ANALYSIS OF VARIANCE FOR LEVEL OF JOB KNOWLEDGE DIFFERENCES AMONG THE THREE EXPERIMENTAL GROUPS

Source of Variation	Degree of Freedom	Sum of Squares	Mean Squares	F
Between Groups	2	1166.46	583.23	40.33*
Within Groups	583	8431.55	14.46	
Total	585	9598.00		

P.01 ≥ 4.61 (with 2 and 583 degrees of freedom)
* Significant beyond the .001 level of significance

In order to determine the extent of the differences among the three user groups, Duncan's multiple range test was applied to the group means. Significant differences at the .05 level of significance were discovered between scores of the prison inmates and scores of the unemployed/ under-employed adults. In addition, scores of the prison inmates were significantly different than scores of the handicapped individuals. As shown in Table 13, the job knowledge mean score of 16.09 was significant by higher than the job knowledge mean scores of the unemployed/under-employed adults and handicapped persons, who had respective mean scores of 14.35 and 13.60.

TABLE 13

DUNCAN'S MULTIPLE RANGE ON JOB KNOWLEDGE

BY EXPERIMENTAL GROUP

Group	Number	Mean Score
Unemployed/under-employed	192	14.35
Handicapped	168	13.60
Prison inmates	226	16.09

Filmstrip Test Results

To assess the level of employability skill knowledge obtained by users of the filmstrip series, users were asked to complete a 15-item instrument developed by the project staff. This instrument presented in Appendix F is entitled: "Employability Skills Questionnaire." Of the approximate 500 users of the filmstrip series, a purposive sample of 273 users consisting of 192 unemployed/under-employed adults, 32 handicapped individuals and 49 prison inmates completed the instrument. For comparison purposes, a total of 382 individuals who had not used the filmstrip series were administered the instrument. This control group consisted of 202 unemployed/under-employed adults, 82 handicapped individuals and 98 prison inmates.

A one-way analysis of variance was applied to the scores of users and non-users of the filmstrip series. An examination of the data presented in Table 14 revealed a statistically significant difference existed between the knowledge scores of users and non-users of the filmstrip series. The users had a mean score of 10.43 on the employability skill test, while the non-users had a mean score of 5.60. The highest possible score on the test was 15.

TABLE 14.

ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON LEVEL OF KNOWLEDGE GAINED FROM FILMSTRIPS

Source of Variation	Degree of Freedom	Sum of Squares	Mean Squares	F
Between Groups	1	3709.71	3709.71	429.05*
Within Groups	653	5646.07	8.65	
Total	654	9355.78		

P.01 ≥ 4.64 (with 1 and 653 degrees of freedom)
*Significant beyond the .001 level of significance

Further analysis was completed to determine if any differences existed among the types of users of the filmstrip series. A one-way analysis of variance was computed on the filmstrip knowledge scores of unemployed/under-employed adults, handicapped individuals and prison inmates who had viewed the filmstrips. An examination of the data presented in Table 15 revealed a statistically significant difference among the three groups of users of the program.

TABLE 15

ANALYSIS OF VARIANCE AMONG THE THREE EXPERIMENTAL GROUPS WITH RESPECT TO KNOWLEDGE GAINED FROM FILMSTRIPS

Source of Variation	Degree of Freedom	Sum of Squares	Mean Squares	F
Between Groups	2	146.53	73.27	22.74*
Within Groups	270	870.02	3.22	
Total	272	1016.55		

P.01 ≥ 3.85 (with 2 and 270 degrees of freedom)
*Significant beyond the .001 level of significance

In order to determine the extent of the differences among the three filmstrip user groups, Duncan's multiple range test was applied to the group means. Significant differences at the .05 level of significance were discovered between scores of the prison inmates and scores of both the unemployed/under-employed group and the handicapped group. As shown in Table 16, the prison inmate group score of 11.98 was significantly higher than the mean scores of the unemployed/under-employed adults and handicapped persons, who had respective scores of 10.05 and 10.28.

TABLE 16

DUNCAN'S MULTIPLE RANGE ON FILMSTRIP KNOWLEDGE SCORES BY EXPERIMENTAL GROUP

Group	Number	Mean Score
Unemployed/under-employed	192	10.05
Handicapped	32	10.28
Prison inmates	49	11.98

Observations by Project Staff

Some observations made by the project staff which should be considered in interpreting the findings of this study are as follows:

1. The prison population used in this study consisted of those inmates who were enrolled in educational programs and therefore, this population had a somewhat higher level of education completed than the average prison population.

2. The 300 jobs included in the computer files during the field test included jobs which required short periods of preparation for the most part. Since some of the handicapped individuals had professional degrees, this fact may have accounted for the handicapped not reacting as favorably to the program as the other user groups.

3. During the last two months of the project, the job files were updated to include information on 535 job titles. Completion of these files was not finished in time to be made operational, but most users expressed the opinion that more career choices would have made the program more useful.

4. The project staff observed that continuous inservice training on the use of the computer terminal was necessary to insure counselors felt comfortable assisting users in using the computerized vocational counseling program.

5. The project staff discovered that extra efforts had to be made to insure the users made effective use of the filmstrip series.

CHAPTER IV

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

In this chapter a summary of the findings of the field test phase of the project are presented. The conclusions based on the findings are given. In addition, recommendations for improving the program are presented.

Summary of Findings

A summary of findings related to the field test of the computerized counseling program is as follows:

1. Over eighty percent of the users of the computerized counseling program stated they had learned some things concerning educational and occupational information from working with the computer.

2. Over ninety percent of the users of the computerized counseling program stated they would recommend use of the program to other people.

3. Over eighty-eight percent of the users of the computerized counseling program indicated they would utilize the computer again to gain more direction as to what occupation to pursue.

4. Over eighty-seven percent of users of the computer indicated that it provided them with a lot of educational information in a short period of time.

5. Over eighty-nine percent of the users of the computerized counseling program stated they would recommend the program to a friend as a way to help explore an occupational field.

6. Over eighty-four percent of the users of the computerized counseling program stated they had learned something about themselves in relation to the world of work.

7. Eighty percent of the users of the computerized counseling program indicated they had learned about some specific requirements for a job through use of the program.

8. Over eighty-three percent of the users of the computerized counseling program stated they had learned more about their career plans through use of the program.

9. Over eighty percent of the users of the computerized counseling program indicated they learned more about educational opportunities offered in the state through use of the program.

10. Over eighty-two percent of the users of the computerized counseling program stated the job description was helpful in helping them understand about jobs.

11. A greater percentage of the unemployed/under-employed adult users and prison inmate users reacted favorably to the computerized counseling program than did the handicapped users.

12. Users of the computerized vocational counseling program scored significantly higher on job knowledge than non-users of the program.

13. The prison inmates scored significantly higher on job knowledge than did the unemployed/under-employed adult and the handicapped users.

14. Users of the filmstrip series scored significantly higher on an employability skill test than non-users of the filmstrips.

15. The prison inmates scored significantly higher on an employability skill test than did the unemployed/under-employed adult and the handicapped users.

16. The filmstrip series was not used extensively since some field test sites did not have a filmstrip projector.

Conclusions

The following conclusions were drawn from the findings of the study.

1. The computerized vocational counseling program provided a viable means for presenting educational and job information.

2. The computerized vocational counseling program was accepted favorably by unemployed/under-employed adults, handicapped individuals and prison inmates.

3. All users reacted favorably to the computerized vocational counseling program; however, the unemployed/under-employed adults and prison inmates reacted more favorably to the program as it was operated during the field test than did the handicapped users.

4. Prison inmates who used the computerized counseling program and the filmstrip series had a greater knowledge of the world of work than the unemployed/under-employed adult and handicapped users.

5. The prison inmates, handicapped individuals and unemployed/under-employed adults who used the computerized program exhibited a greater knowledge of the world of work than prison inmates, handicapped persons and unemployed/under-employed adults who had not used the system.

Recommendations

Based on the conclusions of this project, the following recommendations are presented.

1. The computerized packages should be expanded and refined to make them more effective with the total clientele to be served.

2. Job and educational data should be updated continuously to keep the computer files current.

3. Consideration should be given to making minor modifications to the computerized packages and data files to make the program applicable for secondary school students.

4. Other states wishing to develop a computerized vocational counseling program should consider adapting the materials developed by this project to meet their needs.

SELECTED BIBLIOGRAPHY

Adams, Dewey Allen. Review and Synthesis of Research Concerning Adult Vocational and Technical Education. The Center for Vocational Education, The Ohio State University, Columbus, Ohio, 1972.

Bureau of Education for the Handicapped. Selected Career Education Programs for the Handicapped. DHEW/OE, Washington, D. C., 1972.

Campbell, R. E. and Louise Vetter. Career Guidance - An Overview of Alternative Approaches. Information Series No. 45, The Center for Vocational Education, Columbus, Ohio. (VT 013 479)

Cocswell, J. F. Exploratory Study of Information - Processing Procedures and Computer-Band Technology in Vocational Counseling. Systems Development Corporation, Santa Monica, California, 1967, Proj. #5-9141. (VT 991 328)

Commission of Vocational Education in Correctional Institutions. Commission of Vocational Education in Correctional Institutions, Final Report. Trenton, New Jersey, 1972.

Eggeman, Donald F., et al. Problems in the Transition from School to Work as Perceived by Youth Opportunity Centers Counselors. A National Survey, Research Series No. 53, The Center for Vocational and Technical Education, December, 1969.

Flanagan, J. C. "The Role of the Computer in PLAN," Journal of Educational Data Processing. 1970, pp. 1-10.

Guzzardi, Jr., Walter. "Education for the World of Work." Fortune, October, 1975, pp. 124-128.

Harris, Joann. Summary of a Project for Computerized Vocational Information Being Developed at Willowbrook High School. Villa Park, Illinois, Willowbrook High School, Villa Park, Illinois, 1967.

Hoenninger, Ronald. "New Careers for Mid-Life: May We Help You?" National Vocational Guidance Association, Washington, D. D., 1974. (ED 099 603)

Jones, Brian G., et al. Development and Evaluation of a Comprehensive Career Guidance System. Final Report. American Institute for Research in the Behavioral Sciences, Palo Alto, California, January, 1971.

Love, Don. Vocational Education and the Physically Handicapped--Voices and Views. Hoskins and Associates, South Pasadena, California, July, 1971. (ED 063 472)

McKinlay, Bruce. Developing a Career Information System, Final Report. University of Oregon, Eugene, Oregon, 1974

Minor, F. J., R. A. Myers, and D. E. Super. "An Experimental Computer-Based Educational and Career Exploration System," Personnel and Guidance Journal, Vol. 47, 1967.

Peal, Arthur. Atrocity of Education, 1973.

Prisuta, Richard. A Follow-up Study of Auditorially, Visually, and Orthopedically Handicapped Pupils in Cincinnati. Pittsburg University, Pittsburg, Pennsylvania, 1970. (ED 048 677)

Russell, Gene H. A Five County Vocational Skills Training Program for the Blind: Evaluation Document. Santa Cruz County Schools, 1972. (ED 073 580)

Salmony, Lawrence D. Corrections Education in Oregon: A Way to Proceed. A Report to the State Corrections Education Commission. Oregon State Educational Coordinating Council, Salem, Oregon, June, 1974. (ED 102 406)

Sinclair, Ward and William E. Moulden. "Educating Prisoners for Socially Constructive Roles." ERIC Clearinghouse on Teacher Education. Washington, D. C., 1974. (ED 102 406)

Stowers, Phyllis, "CIS: A New Dimension for Organizing Career Information Resources." Occupational Outlook Quarterly, Fall, 1975.

Suzuki, Warren, "Administering Career Guidance Programs," Paper presented at Sixth Annual National Leadership Development Seminar for State Directors of Vocational Education. Nashville, Tennessee, September, 1973.

U. S. Department of Labor. Occupational Information Systems Grants Program Standards and Guidelines. Washington, D. C., Government Printing Office, 1974.

Young, Earl B., et al. Vocational Education for Handicapped Persons. Handbook for Program Implementation. Office of Education, Washington, D. C., 1971. (ED 056 176)

APPENDICES

Appendix A . . . . . Project Advisory Committee

Appendix B . . . . . Counseling Needs Interview Survey Form

Appendix C . . . . . Survey Results

Appendix D . . . . . Inservice Training Package

Appendix E . . . . . Field Test Sites

Appendix F . . . . . Employability Skills Questionnaire

Appendix G . . . . . Reaction Questionnaire

Appendix H . . . . . Newspaper Article

APPENDIX A

PROJECT ADVISORY COMMITTEE

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APPENDIX B

COUNSELING NEEDS INTERVIEW SURVEY FORM

Age:
__18-21
__22-25
__26-30
__31-35
__36-40
__41-45
__46-50
__51-55
__56-60
__61-65

Sex:
__Male
__Female

Educational Level:
__8th grade or less
__9th grade, completed
__10th grade, completed
__11th grade, completed
__12th grade, completed
__Completed 1 year of college
__Completed 2 years of college
__Completed 3 years of college
__College graduate
__Graduate work

Years of Working Experience:
__1 year or less
__2 years or less
__3 years or less
__4 years or less
__5 years or less
__10 years or less
__15 years or less
__Over 15 years

Vocational Training Received:
__None
__High School, 1 year
__High School, 2 years
__Postsecondary, 1 year
__Postsecondary, 2 years
__Apprenticeship
__On-the-job training

Disability:
__None
__Physical
__Mental
__Emotional

Criminal Record:

Military Service:
__Yes
__No
_____Rank
_____
Occupation

FOR PRISON POPULATION ONLY:
__Number of years served
__Number of years to go before release
In Educational Program: __Yes __No

1. __Yes __No Do you know who your (vocational) counselor is?

2. __Yes __No Do you know where your counselor's office is located?

3. __Yes __No Do you know how to make an appointment with your (vocational) counselor?

4. __Yes __No Do you find your (vocational) counselor the kind of person you can easily approach with problems?

5. __Yes __No Are counselors available to help you in choosing your occupation?

6. __Yes __No Are counselors available to help you in being admitted to a post-high school educational institution?

7. __Yes __No Are counselors available to assist you in dealing with your personal and social adjustment problems?

8. __Yes __No Does your counselor assist you in getting a job?

9. __Yes __No Does your (vocational) counselor aid you in selecting subjects?

10. __Yes __No Does your (vocational) counselor aid you in planning your program of study?

11. __Yes __No Does your (vocational) counselor aid you in learning about the World of Work?

12. __Yes __No Is the job information that you want and need readily available in your setting from your (vocational) counselor?

13. __Yes __No Do you have good contact with your (vocational) counselor?

14. __Yes __No Does your (vocational) counselor provide job placement for you?

15. __Yes __No Does your (vocational) counselor ever ask you to stop by his office or do you see him at least once a year?

16. __Yes __No Do you feel that your (vocational) counselor helped you in developing your decision-making skills?

17. __Little or no help
__Somewhat helpful
__Very helpful
How helpful has your (vocational) counselor been?

18. __Yes __No Have you had the opportunity to read any pamphlets or publications about jobs, careers, educational opportunities, etc.?

19. __Yes __No Is the job information that you want and need readily available in your setting from your (vocational) counselor?

20. __Yes __No Do you know at least five occupations that you may be trained in if you went to a four-year college? Please list them.

21. __Yes __No Do you know at least five occupations that you may be trained in if you went to an Area-Vocational School? Please list them.

22. __Yes __No Do you know at least five occupations that you may be trained in if you went to a community college? Please list them.

23. __Yes __No Were you ever counseled with concerning vocational-technical programs?

24. __Yes __No Is occupational information available and accessible to you?

25. __Yes __No Have you received information concerning job interview techniques or the availability of local state employment service?

26. __Yes __No Do you know of any follow-up studies that you have been involved in concerning counseling services rendered to you?

27. __Yes __No Have you received vocational counseling from anyone other than your vocational counselor? If yes, who helped you?

28. __Adequate __Inadequate What is the first step in selecting a vocation or career?

29. __Yes __No Have you taken any aptitude or interest tests within the past year?

30. When seeking occupational help, to whom do you turn? __Counselor, __Parent, __Teacher, __Friend, __Self or __Other

31. When selecting a vocational occupation, what stimulates your interest? __Helping others, __Money, __Working conditions, __Responsibility, __Prestige, or __Other

32. What aids you in selecting a vocational occupation? (Please list them.) _____

33. How many times did you meet with your counselor over the last month? _____ Times

34. What do you consider to be successful? _____

APPENDIX C
SURVEY RESULTS

Results of the interviews are presented in the following pages. First the demographic data are presented and then interviewees' answers to specific questions are given.

As shown in Table 1, 152 (76%) of the 197 persons interviewed were 30 years of age or younger. Only 45 (24 percent) were in the age groups above 30 years of age.

TABLE 1

BREAKDOWN BY AGE OF INTERVIEWEES

Age Range	Number	Percentage
18-21	50	25
22-25	48	24
26-30	54	27
31-35	23	12
36-40	9	5
41-45	6	3
46-55	7	4

A breakdown of the highest level of education attained by the interviewees is presented in Table 2. Eighty-nine (44 percent) of those interviewed had less than a high school education. Seventy-six (38 percent) of the interviewees had completed high school. Only 32 (15 percent) had completed any college level work.

TABLE 2

BREAKDOWN BY EDUCATIONAL LEVEL OF INTERVIEWEES

Educational Level	Number	Percentage
8th grade	22	11
9th grade	21	10
10th grade	26	13
11th grade	20	10
12th grade	76	38
1 year of college	18	9
2 years of college	9	4
3 years of college	5	2

Work experience was another variable of demographic data that was collected during the surveys which showed that 102 of the 197 participants had worked a total of five years or less (see Table 3). Whereas, one did not have any working experience, 32 had one year, 18 had two years, 21 had three years, 21 had four years, and 20 had five years of working experience. In addition, 44 had a total of 10 years, 20 had a total of 15 years, while 10 had over 15 years of working experience.

TABLE 3

BREAKDOWN BY YEARS WORKING EXPERIENCE OF INTERVIEWEES

Years Working Experience	Number	Percentage
None	1	0.5
1	32	16
2	18	9
3	21	11
4	21	11
5	20	10
10	44	22
15	30	15
over 15	10	5

In reviewing vocational training received by those surveyed, 82 of the 197 participants indicated that they did not have any vocational training at the time of the survey (see Table 4). However, 32 of the participants received vocational training in the secondary public school system, whereas 26 received vocational training at a post-secondary institution, while on-the-job training accounted for 47 participants receiving vocational training, and 9 received vocational training by means of apprenticeship programs.

TABLE 4

BREAKDOWN BY VOCATIONAL TRAINING RECEIVED BY INTERVIEWEES

Vocational Training Received	Number	Percentage
None	82	42
High School, 1 year	14	7
High School, 2 years	18	9
Postsecondary institution, 1 year	17	9
Postsecondary institution, 2 years	9	5
Apprenticeship	9	5
On-the-job Training	48	24

In analyzing the remaining demographic data, it was found that none of the interviewees other than the prison inmates had a criminal record. The sex of those interviewed consisted of 106 (54 percent) males and 91 (46 percent) females. In addition, it was revealed that 47 (24 percent) had served in the armed forces.

Table 5 on pages 49-51 contains information on the responses of the interviewers to the 29 questions asked with respect to counseling needs. Responses to each question are discussed in the following paragraphs.

When asked question number one: "Do you know who your (vocational) counselor is?" 153 (78 percent) of the interviewees indicated they knew while 44 (22 percent) said they did not know.

TABLE 5

INTERVIEWEES' RESPONSES TO SPECIFIC QUESTIONS ON COUNSELING SERVICES

No.	Question	No. of Yes Responses	Percent	No. of No Responses	Percent
1.	Do you know who your (vocational counselor is?	153	78	44	22
2.	Do you know where your counselor's office is located?	172	87	25	13
3.	Do you know how to make an appointment with your (vocational) counselor?	163	83	34	17
4.	Do you find your (vocational) counselor the kind of person you can easily approach with problems?	140	71	57	29
5.	Are counselors available to help you in choosing your occupation?	121	61	76	39
6.	Are counselors available to help you in being admitted to a post-high school educational institution?	122	61	75	39
8.	Does your counselor assist you in getting a job?	111	56	86	44
9.	Does your (vocational) counselor aid you in selecting educational subjects?	92	46	105	54
10.	Does your (vocational) counselor aid you in planning your program of study?	82	42	115	56
11.	Does your (vocational) counselor aid you in learning about the world of work?	96	49	101	51
12.	Is the job information that you want and need readily available in your setting from your (vocational) counselor?	76	38	121	62

INTERVIEWEES' RESPONSES TO SPECIFIC QUESTIONS ON COUNSELING SERVICES (CONTINUED)

No.	Question	No. of Yes Responses	Percent	No. of No Responses	Percent
13.	Do you have good contact with your (vocational) counselor?	112	57	85	43
14.	Does your (vocational) counselor provide job placement for you?	77	39	119	60
15.	Does your (vocational) counselor ever ask you to stop by his office or do you see him at least once a year?	89	45	108	55
16.	Do you feel that your (vocational) counselor helped you in developing your decision-making skills?	73	37	124	63
18.	Have you had the opportunity to read any pamphlets or publications about jobs, careers, educational opportunities, etc.?	79	40	118	60
19.	Is the job information that you want and need readily available in your setting from your (vocational) counselor?	56	28	141	72
20.	Do you know at least five occupations that you may be trained in if you went to a four-year college?	77	39	120	61
21.	Do you know at least five occupations that you may be trained in if you went to an Area-Vocational School?	86	44	111	56
22.	Do you know at least five occupations that you may be trained in if you went to a community college?	45	23	152	77
23.	Were you ever counseled with concerning vocational-technical programs?	36	18	161	82
24.	Is occupational information available and accessible to you?	76	39	121	61

INTERVIEWEES' RESPONSES TO SPECIFIC QUESTIONS ON COUNSELING SERVICES (CONTINUED)

No.	Question	No. of Yes Responses	Percent	No. of No Responses	Percent
25.	Have you received information concerning job interview techniques or the availability of local state employment service?	56	28	141	72
26.	Do you know of any follow-up studies that you have been involved in concerning counseling services rendered to you?	33	17	161	82
27.	Have you received vocational counseling from anyone other than your vocational counselor?	72	36	126	64
29.	Have you taken any aptitude or interest tests within the past year?	122	62	73	38

Question number two was: "Do you know where your counselor's office is located?" Of all those interviewed, 172 (87 percent) knew where the office was located, while 25 (13 percent) did not.

The third question was concerned with knowledge of how to make an appointment with counselors. Of those interviewed, 163 (83 percent) knew how to make an appointment and the remaining 34 (17 percent) were unaware or lacked knowledge of the necessary procedures for making an appointment with their counselor.

Question number four was: "Do you find your counselor the kind of person you can easily approach with problems?" Of those interviewed, 140 (71 percent) indicated their counselor was the kind of person they could easily approach. Fifty-seven (29 percent) indicated their counselor was not the kind of person who could be easily approached.

The fifth question sought information on whether or not interviewees' counselors were helpful in helping individuals choose occupations. Of those interviewed, 121 (61 percent) said their counselors were helpful, while 79 (39 percent) said their counselors were not.

Question number six was; "Are counselors available to help you in being admitted to a post-high school educational institution?" Of the 197 interviewed, 122 (61 percent) responded "yes," while 75 (39 percent) responded "no."

Question number seven was: "Are counselors available to assist you in dealing with your personal and social adjustment problems?" Of those interviewed, 106 (54 percent) indicated "yes" to this question, while 91 (46 percent) indicated "no."

When asked question number eight dealing with whether or not counselors assisted the interviewees in getting a job, 111 (56 percent) indicated the counselors did assist them. Eighty-six (44 percent) indicated their counselors did not.

Question number nine was: "Does your (vocational) counselor aid you in selecting educational subjects?" Of those interviewed, 92 (46 percent) replied "yes," while 105 (54 percent) replied "no."

When asked question number ten dealing with whether or not their counselors aided in planning a program of study, 82 interviewees replied "yes." Of those interviewed 115 (58 percent) said they had not received aid from their counselor.

Question number eleven was: "Does your (vocational) counselor aid you in learning about the world of work?" Ninety-six (49 percent) replied "yes" to this question, while 101 (51 percent) said "no."

When asked question number twelve dealing with whether or not job information was available from their counselor, 76 (38 percent) interviewees said "yes" it was available. Of those interviewed, 121 (62 percent) said no job information was made available to them by their counselor.

Question number thirteen was: "Do you have good contact with your (vocational) counselor?" Of those interviewed, 112 (57 percent) said they did have good contact, while 85 (43 percent) said they did not.

When asked question number fourteen dealing with whether counselors provided job placement, 77 (39 percent) said they did. Of those interviewed 119 (60 percent) said counselors did not provide job placement services for them.

Question number fifteen was: "Does your (vocational) counselor ever ask you to stop by his office or do you see him at least once a year?" To this question, 89 (45 percent) responded "yes," while 108 (55 percent) responded "no."

Question number sixteen was: "Do you feel that your (vocational) counselor helped you in developing your decision-making skills?" Seventy-three (37 percent) of those interviewed responded "yes" to this question, while 124 (63 percent) responded "no."

Question number seventeen, which is not shown in Table 5, asked the interviewees to respond to the question: "How helpful has your (vocational) counselor been?" Seventy-four (38 percent) of those interviewed said their counselor had been of little or no help, 64 (32 percent) said their counselor had been somewhat helpful and 59 (30 percent) said their counselor had been very helpful.

Question number eighteen was: "Have you had the opportunity to read any pamphlets or publications about jobs, careers, educational opportunities, etc.?" Seventy-nine (40 percent) of those interviewed said they had, while 118 (60 percent) said they had not.

When asked question number nineteen dealing with whether job information of the type interviewees wanted and needed was readily available, 56 (28 percent) of those interviewed said it was. Of those interviewed 141, (72 percent) said job information was not readily available.

Interviewees' responses to question number twenty revealed only 77 (39 percent) of those interviewed could name five occupations that a person could receive training for in a four-year college. Of those interviewed, 120 (61 percent) could not identify five occupations requiring a four-year college education.

Responses to question number twenty-one revealed that 86 (44 percent) of those interviewed knew at least five occupations that could be prepared for in an area vocational school. Of those interviewed, 111 (56 percent) could not identify five occupations that individuals could be trained for in an area vocational school.

Responses to question number twenty-two revealed that 45 (23 percent) of the interviewees knew at least five occupations that could be prepared for in a community college. Of those interviewed 152 (77 percent) could not identify five occupations that individuals could be trained for in a community college.

Question number twenty-three was: "Were you ever counseled with concerning vocational-technical programs?" Thirty-six (18 percent) of those interviewed replied they were, while 161 (82 percent) said they were not counseled about vocational-technical programs.

Question number twenty-four was: "Is occupational information available and accessible to you?" Seventy-six

(39 percent) responded "yes" to this question, while 121 (61 percent) replied "no."

In reference to question number twenty-five, 56 (28 percent) of those interviewed said they had received information concerning job interview techniques. The remaining 141 (72 percent) interviewees said they had received no information on job interview techniques or the availability of the local state employment service.

In reply to question number twenty-six, 33 (17 percent) of those interviewed said they were aware of follow-up studies made concerning counseling services rendered to them. Of those interviewed, 161 (82 percent) had no knowledge of being involved in any follow-up studies concerning counseling services provided to them.

Question number twenty-seven was: "Have you received vocational counseling from anyone other than your vocational counselor?" Of those interviewed, 72 (36 percent) responded "yes" to this question and 126 (64 percent) responded "no."

Question number twenty-eight which is not shown in Table 5 asked interviewees to identify the first step in selecting a vocation or a career. Only 32 (16 percent) were able to identify any logical steps to take in deciding on a vocation to pursue.

Responses to question number twenty-nine revealed 122 (62 percent) of the interviewees had taken an aptitude or interest test during the past year. Seventy-three (38 percent) had not taken any aptitude or interest test during the past year.

APPENDIX D

INSERVICE TRAINING PACKAGE

INSERVICE TRAINING PROCEDURES

Inservice training for counselors, counselor aides, supervisors and administrators was begun the last week of June, 1977. The following major steps will be followed by the project staff during the inservice training period to be completed at all field test sites during July, 1977.

STEP 1: Introduction and purpose of the inservice training.

Procedure: Welcome participants to the session and inform them of the purpose of the inservice training.

STEP 2: "Overview of the Federal Computerized Counseling Project" (Script attached at end)

Procedure: Present slide-audio tape series designed to give participants a complete overview of the project.

STEP 3: User Guide and User List

Procedure: Each participant in the inservice training session is to be given a User Guide which was developed by the project staff. The staff will explain the contents of the guide. Participants are to be informed about the User List and how to maintain records of the users. The participants will be asked to fill out the questionnaire in the User Guide so that they can interact with the computer later on as part of their inservice training.

STEP 4: Introduction and use of the computer terminal

Procedure: Each participant will have "hands-on" experience with the total computerized system (INPUT, complete the job search questionnaire; WHY, find out why a specific job is not on their list; CHANGE, change answer to any question in the job search questionnaire; JOBD, obtain a job description; PREP, obtain information on how people prepare for a specific job; CROS, find out what vocational or technology training program will prepare them for a job and what institutions offer the program; EMPLY, identify possible employers for a

specific job title; SEEK, complete the institutional search questionnaire; INSTD, obtain a description of a specific post-secondary institution; STOP, stop using the computer; and HELP, get a list of the possible programs to run). With individual instructions on the use of the computerized program and the computer, the project staff will entertain any questions.

STEP 5: Introduction to the "Orientation to Employability Skills" audiovisual series

Procedure: The participants in the inservice training will preview at least two of the ten filmstrip series. They will be informed how this series ties into the total project. The booklet, A Guide to Orientation to Employability Skills, which was developed by the project staff, will be presented to each participant. The contents of the audiovisual series will be discussed. Practice exercises to be used with the users of the computerized INFOE will be reviewed with the participants.

STEP 6: Future visits and contact procedures were discussed

Procedure: The participants are to be informed of future visits and contact procedures to monitor the field test sites. Also, they will be informed on how to contact the project staff in case of any emergency or problems during the use of the computer terminals.

STEP 7: Questions and Answers

Procedure: The project staff will entertain any questions from the participants at the inservice training session. When questions from participants have been answered, the session will be completed.

SCRIPT FOR "OVERVIEW OF THE FEDERAL COMPUTERIZED COUNSELING PROJECT"

Slide 1 This presentation will give you an overview of the federal computerized counseling project by focusing on its objectives, developmental stages, procedures, and benefits.

Slide 2 The title of this project is: DEVELOPMENT AND FIELD TEST OF A MULTI-PURPOSE COMPUTERIZED VOCATIONAL COUNSELING PROGRAM FOR PROVIDING PLACEMENT, OCCUPATIONAL AND EDUCATIONAL INFORMATION TO UNEMPLOYED ADULTS, HANDICAPPED PERSONS AND INMATES IN CORRECTIONAL INSTITUTIONS.

Slide 3 The first of the five objectives of the project was to determine vocational counseling needs of the unemployed and under-employed adults, handicapped persons as well as inmates in correctional institutions in Tennessee.

Slide 4 Objective number two was to develop a multi-purpose occupational information computer program for providing on-line access to placement, occupational and educational opportunity data.

Slide 5 The third objective was to develop user guides and sound-filmstrips for using occupational information and for developing basic employability skills.

Slide 6 Objective four was to field test the operational capabilities of the developed multi-purpose occupational information computer package on four types of computers. These computers are: WANG, HP 2000, HP 3000, and PDP-11. These computers were selected because they will be in use throughout many parts of Tennessee.

Slide 7 The WANG 2200 is a stand-alone, self-contained mini-computer system in the $20,000 to $25,000 bracket.

Slide 8 The Hewlett/Packard 2000 is a medium sized, general purpose computer used in many community colleges.

Slide 9 The Hewlett/Packard 3000 is a medium sized, general purpose computer used in many community colleges.

Slide 10 The Digital Equipment Corp. PDP 11 is an educational time-sharing computer in the $125,000 - $200,000 price range.

Slide 11 The last objective was to assess the feasibility of a state-wide computerized vocational counseling program and user reactions to all facets of the program.

Slide 12 As the first step in attaining the first objective, the staff developed a questionnaire and interviewed under-employed and unemployed adults, handicapped persons and inmates to determine their vocational counseling needs.

Slide 13 This information was analyzed and served as the basis for the programs which were loaded into the computer memory systems.

Slide 14 At that time, 300 jobs were selected and coded according to the following: interests, criminal record, abilities, disabilities, desired salary level, educational requirements, and working condition preferences.

Slide 15 A questionnaire was developed containing 33 questions concerning occupational and educational information.

Slide 16 This information was then put into four different computers. Thus, computerized INFOE consists of programs and data files which help people decide on a career field.

Slide 17 After a person answers the 33 questions, the computer will check its files to see which jobs fit the user's answers. Then the computer will provide a printout of jobs.

Slide 18 If the user did not get a job that he or she wanted, the user would ask WHY he did not get that job, then the computer may tell him - for exampl - that the job requires a lot of traveling, whereas the user may have indicated that he or she did not want to travel or that it requires full use of both hands, whereas the user may have indicated that one hand is bad.

Slide 19 The user at that time may choose to compromise an answer in order to get a desired job. The user would hit the CHANGE command and change the answer. After he has changed his answer(s), he will get a new printout.

Slide 20 After reviewing the jobs on a printout, the user may want a job description. The user then types into the computer the JOB DESCRIPTION COMMAND and JOB NUMBER. The computer will produce a printout describing the job, its requirements, salary levels, etc.

Slide 21 At this time the user may want to know how to prepare for this job or career. He or she types into the computer PREPARATION and the JOB NUMBER. The computer gives the user a printout telling how to prepare for that job.

Slide 22 The user may be interested in training for this job, so he or she types into the computer CROSS-REFERENCE and gets a list of institutions across the state which offer training to help individuals prepare for that job.

Slide 23 At that time the user may want more information on a particular institution, so he or she types into the computer INSTITUTION FILE. This will give the user all the information about the institution he so desires.

Slide 24 The user may be interested in what companies hire for a particular job. He at that time types into the computer EMPLOYER'S FILE and the JOB NUMBER. He will get a listing according to West, Middle, or East Tennessee.

Slide 25 Because this field test is a research effort, we would like each counselor or person in charge of scheduling use of the computer terminal to keep a USERS LIST of the individuals who use the system. We will use this log to contact some of the users.

Slide 26 Some of the users will be asked to fill out research questionnaires to help us evaluate the effectiveness of the system.

Slide 27 In conjunction with Computerized INFOE, a set of ten filmstrips was developed. The titles are: Orientation to Employability Skills; Seeking Employment Assistance; Preparing Your Resume'; The Job Interview; Selling Your Skills to an Employer; What to Look for in a Job; What Employers Look for in Employees; Climbing the Career Ladder; How to Enjoy Your Job More; and Job Hunting on the Outside.

Slide 28 As the result of this project, six major benefits have resulted: (One) A master occupational information computer package which can be easily localized and updated for use on computers with time-share capabilities.

Slide 29 (Two) Demonstrated techniques for coding available vocational-technical training and job placement data for use by adults, handicapped persons and prison inmates.

Slide 30 (Three) A fully documented computer software package written in basic language which can be easily adapted for use in other states.

Slide 31 (Four) User guides to assist agencies which provide vocational counseling to adults, handicapped persons and prison inmates in making more effective use of occupational, educational and placement data.

Slide 32 (Five) An evaluated package of filmstrips to assist adults, handicapped persons and prison inmates in making vocational training and job choices and in obraining basic employability skills.

Slide 33 (Six) Evaluative information pointing out the strengths and seaknesses of the development and field test of a vocational counseling program designed for adults, handicapped persons and prison inmates.

Slide 34 In SUMMARY, this proposed project will demonstrate the feasibility of developing and implementing a multi-purpose computer package for vocational counseling of adults, handicapped persons and prison inmates.

APPENDIX E

FIELD TEST SITES

Computer Type	Location	Population Served
WANG 2200	Johnson City	Handicapped
	Knoxville, Site 1	Adults
	Knoxville, Site 2	Adults
	Nashville	Prison Inmates
Hewlett-Packard 2000 ACCESS	Chattanooga	Handicapped
	Nashville, Site 1	Prison Inmates (females)
	Nashville, Site 2	Prison Inmates (males)
	Nashville, Site 3	Handicapped
	Symrna	Handicapped
Hewlett-Packard 3000	Chattanooga	Adults
	Morristown	Handicapped
	Knoxville, Site 3	Handicapped
	Knoxville, Site 4	Handicapped
DEC PDP11	Harriman	Adults
	Dyersburg	Handicapped
	Jackson	Handicapped
	Paris	Handicapped
	Union City	Handicapped

APPENDIX F

EMPLOYABILITY SKILLS QUESTIONNAIRE

SEX: M___ F.___ AGE:_____ EDUCATIONAL LEVEL:_____(GRADE)

NOTE: CIRCLE THE CORRECT RESPONSE TO THE FOLLOWING QUESTIONS.

1. WHAT IS THE BEST FIRST STEP IN ANY JOB SEARCH?
   a. VISITING SALES OFFICE
   b. GET YOUR OWN TELEPHONE
   c. ESTABLISH YOUR GOALS
   d. TALKING WITH CLERK

2. WHICH ONE OF THE FOLLOWING DOES NOT BELONG IN YOUR RESUME?
   a. REFERENCES
   b. WORK EXPERIENCE
   c. SALARY
   d. PERSONAL DATA

3. WHAT SHOULD YOU DO IF YOU'RE NERVOUS DURING THE JOB INTERVIEW?
   a. SMOKE A CIGARETTE
   b. LOOK OUT THE WINDOW
   c. SIMPLY LEAVE THE SITUATION
   d. TAKE A DEEP BREATH AND RELAX

4. WHICH OF THE FOLLOWING GROUPS SHOULD NOT BE USED AS REFERENCES?
   a. FORMER EMPLOYERS
   b. RELATIVES
   c. TEACHERS
   d. NEIGHBORS

5. HOW MANY CHANCES DO YOU HAVE TO MAKE A GOOD IMPRESSION?
   a. ONE
   b. TWO
   c. THREE
   d. ALL OF THE ABOVE

6. TO SELL YOUR SKILLS TO AN EMPLOYER, YOU SHOULD LIST YOUR:
   a. ASSETS
   b. SKILLS
   c. ABILITIES
   d. ALL OF THE ABOVE

7. WHICH OF THE FOLLOWING IS NOT ONE OF YOUR PERSONALITY TRAITS?
   a. MATURE
   b. ATHLETIC
   c. DEPENDABLE
   d. ENTHUSIASTIC

8. WHAT DO MOST PEOPLE BELIEVE IS THE MOST IMPORTANT THING TO CONSIDER IN LOOKING FOR A JOB?
   a. SALARY
   b. HOURS
   c. JOB SATISFACTION
   d. WORKING CONDITIONS

9. THE WORD RESUMÉ IS A FRENCH WORD WHICH MEANS:
   a. BEGIN AGAIN
   b. TOMORROW
   c. SUMMARY
   d. LOBSTER

10. WHEN WILL YOU BE INTERVIEWED FOR A JOB?
   a. BEFORE YOU FILL OUT AN APPLICATION
   b. AFTER YOU FILL OUT AN APPLICATION
   c. WHEN YOU ARE SUPPOSED TO
   d. ALL OF THE ABOVE

11. WHERE SHOULD YOU KEEP LISTS OF YOUR ABILITIES, PERSONALITY TRAITS, SKILLS, AND PHYSICAL TRAITS?
   a. WITH YOUR RESUMÉ
   b. WITH YOUR LUNCH
   c. WITH YOUR DRIVER'S LICENSE
   d. IN YOUR INSIDE COAT POCKET

12. WHEN IS THE BEST TIME TO SHOW UP FOR A JOB INTERVIEW?
    a. LATE AFTERNOON
    b. AT THE EXACT TIME OF YOUR APPOINTMENT
    c. JUST BEFORE LUNCH
    d. TEN MINUTES BEFORE YOUR APPOINTMENT

13. WHY IS A NEAT RESUME SO IMPORTANT?
    a. IT IS EASIER TO READ
    b. IT CREATES A FIRST IMPRESSION OF YOU
    c. IT SHOWS YOU DO GOOD WORK
    d. ALL OF THE ABOVE

14. WHY IS THE JOB INTERVIEW IMPORTANT?
    a. CHANCE TO MAKE FRIENDS
    b. MAY GET GOOD REFERENCE
    c. MAY LEAD TO JOB
    d. GOOD PREPARATION FOR JOB

15. WHY SHOULD YOU BE POLITE WHETHER YOU GET THE JOB OR NOT?
    a. COMPANY MIGHT CHANGE ITS MIND
    b. COMPANY MIGHT BLACKBALL YOU
    c. COMPANY MIGHT PRESS CHARGES
    d. COMPANY MIGHT BE ABLE TO SELL YOU SOMETHING

APPENDIX G

-- REACTION QUESTIONNAIRE --

SEX: M___ F___ AGE:_____ EDUCATIONAL LEVEL:_____(GRADE)

USE THE FOLLOWING SCALE DESCRIPTIONS TO RESPOND TO THESE ITEMS:

YES, ABSOLUTELY	5
YES, IN MOST CASES	4
DEPENDS ON THE SITUATION AND/OR THE PERSON	3
NO, ONLY IN A VERY FEW CASES	2
ABSOLUTELY NOT	1

		CIRCLE ONLY ONE
1.	DO YOU FEEL THAT YOU LEARNED SOME THINGS FROM WORKING WITH THE COMPUTER CONCERNING EDUCATIONAL AND OCCUPATIONAL INFORMATION?	5 4 3 2 1
2.	WOULD YOU RECOMMEND THAT OTHER PARTICIPANTS LEARN WITH THE AID OF A COMPUTER ABOUT THE WORLD OF WORK?	5 4 3 2 1
3.	IF YOU HAD THE CHANCE, WOULD YOU UTILIZE THE COMPUTER TO GAIN MORE DIRECTION AS TO WHAT OCCUPATION TO GO INTO?	5 4 3 2 1
4.	DID YOU FEEL THAT THE COMPUTER PROVIDED YOU WITH A LOT OF EDUCATIONAL AND OCCUPATIONAL INFORMATION IN A SHORT PERIOD OF TIME?	5 4 3 2 1
5.	WOULD YOU RECOMMEND THIS SYSTEM TO A FRIEND TO HELP EXPLORE AN OCCUPATIONAL FIELD?	5 4 3 2 1
6.	DID YOU LEARN SOMETHING ABOUT YOURSELF IN RELATION TO THE WORLD OF WORK?	5 4 3 2 1
7.	DID YOU LEARN ABOUT SOME SPECIFIC REQUIREMENTS FOR A JOB OR HOW TO PREPARE FOR A JOB?	5 4 3 2 1
8.	DID YOU LEARN MORE ABOUT YOUR CAREER PLANS?	5 4 3 2 1
9.	DID YOU LEARN MORE ABOUT EDUCATIONAL OPPORTUNITIES THAT ARE OFFERED THROUGHOUT THE STATE FOR PARTICULAR OCCUPATIONS?	5 4 3 2 1
10.	DID YOU FEEL THAT THE JOB DESCRIPTION FOR A JOB WAS HELPFUL?	5 4 3 2 1

APPENDIX H

UT Studying Computerized Job Service

A computerized program to help the unemployed, the handicapped and prison inmates find jobs is under study by UT officials.

The system, part of Project Infoe (Information Needed for Occupation Education), is being exhibited through Thursday at West Town Mall as part of the mall's observance of American Education Week.

By answering 33 questions, persons seeking jobs can get information on job fields for which they are capable, educational requirements for those jobs, where to obtain that education, and salary to be expected.

The questions cover job seekers' interests, criminal records, abilities, disabilities, desired salaries and working condition preferences. With that information, the computer will scan more than 300 job classifications to determine which are best suited to the applicant.

"It gives a person a direction," says Dr. Ernest W. Brewer, associate project director. "He can start projecting his future on the list of jobs."

AFTER REVIEWING the list of jobs for which he's suited, the user can seek a description of those in which he's interested. The descriptions include such things as educational requirements and salary levels.

The user may also obtain information on how to prepare for chosen jobs, a list of institutions which offer such training, and detailed information on tuition, scholarship availability and other facets of each institution.

Finally the user can obtain a list of companies that use particular jobs, and whether the companies are in East, West or Middle Tennessee.

The entire process can be completed in about 15 minutes, Dr. Brewer said.

The project, funded by the U.S. Office of Education, has produced several major benefits, Dr. Brewer said. They include development of a computer package which can be easily localized and updated; providing techniques for coding training and job placement data; providing a computer program which can easily be adapted for use in other states; and making it easier for vocational counselors to match job data and applicants.

UNDER THE PROGRAM a package of filmstrips has been developed to assist adults, the handicapped and prison inmates in making vocation training and job choices, Dr. Brewer said.

Project Infoe is beginning its seventh year, he said, although the computerized system has only been in operation a year. There are 14 field test sites in operation now, and a final evaluation of the system is due in early February, Dr. Brewer said.

"So far we've had very positive feedback," he said.

Careers Through Computers

Two UT researchers demonstrate a computerized job counseling system to help unemployed adults, handicapped persons and prison inmates find careers for which they qualify in fields where they have interests. Standing is Dr. Ernest W. Brewer, associate project director, and seated is Dr. George Traver, a project coordinator. The system is being demonstrated through Thursday at West Town Mall as part of the observance of American Education Week.